TC ABSTRACT

I. Basic Project Data

▪ Country/Region:	BRAZIL/CSC - Southern Cone
▪ TC Name:	Modernization of the Brazilian Power Sector
▪ TC Number:	BR-T1529
▪ Team Leader/Members:	Echevarria Barbero, Carlos Jose (INE/ENE) Team Leader; Carvalho Metanias Hallack, Michelle (INE/ENE); Paredes, Juan Roberto (INE/ENE); Emilio Angulo (INE/ENE); Nicolas Tulande (INE/ENE); Verissimo Da Silva, Carolina (LEG/SGO); Loana Vega (INE/ENE); Edwin Mejia (INE/ENE)
▪ Taxonomy:	Client Support
▪ Number and name of operation supported by the TC:	N/A
▪ Date of TC Abstract:	04 Aug 2022
▪ Beneficiary:	Ministry of Energy and Mines
▪ Executing Agency:	INTER-AMERICAN DEVELOPMENT BANK
▪ IDB funding requested:	US$1,000,000.00
▪ Local counterpart funding:	US$0.00
▪ Disbursement period:	24 months
▪ Types of consultants:	Individuals; Firms
▪ Prepared by Unit:	INE/ENE - Energy
▪ Unit of Disbursement Responsibility:	CSC/CBR - Country Office Brazil
▪ TC included in Country Strategy (y/n): ▪ TC included in CPD (y/n):	Yes Yes
▪ Alignment to the Update to the Institutional Strategy 2010-2020:	Productivity and innovation; Environmental sustainability

II. Objective and Justification

2.1 Support the Government of Brazil (GoB) to strengthen its institutional, technical, and regulatory capabilities to promote a greater integration of low carbon technologies in the Brazilian energy matrix

2.2 Globally, Brazil is the seventh largest GHG emitter, representing 2.9% emissions. Electricity and other energy use account for 28% of emissions, which after the transport sector, makes it the most polluting industry. In this context, Brazil's National Determined Contribution (NDC) is considered one of the most ambitious. The country has established the target of reducing emissions by 37% by 2025 compared to their 2005 level, and by 43% in 2030. In order to reduce Green House Gases (GHG) levels in Brazil, the energy mix must achieve 45% of renewables by expanding the use of renewable energy sources (other than hydropower) in the total energy mix to between 28% and 33%.

2.3 As noted, along with the abundance of hydro-energy resources, Brazil has an enormous potential to exploit other renewable sources such as wind, solar and biomass. Although these renewable resources have had great growth in recent years, at this time, the exploitation of these resources is quite far from its potential for use. A greater integration of these sources in a diversified technological and geospatial manner around the Brazilian territory, would increase the flexibility of the Brazilian electricity system, reducing its vulnerability and dependence on hydroelectric generation and increasing its resilience to the effects of Climate Change.

2.4 Due to the historical prevalence of the hydroelectricity generation, the rules of expansion and operation of the electricity system have been designed around the technological characteristics of this source. Currently the electricity sector is going through a transformation process because of a massive new integration of variable renewables, increase of Distributed Generation resources (DG), sectoral digitalization and automatization process, sector's coupling (energy, transport, telecommunication), and the need to boost the transition to a zero-emission economy.

2.5 In this new context of disruptive transformational changes, higher complexity, and greater uncertainty, it is required the Brazilian electrical system to have greater flexibility and capacity for adaptation. It is also required an adequate market, economic signals and arrangements, based on a strengthened and low carbon regulatory framework to optimize the sustainable expansion of the system operation, considering the energy resources the country has.

2.6 To respond to this situation, in April 2019, the Ministry of Mines and Energy (MME) published the Portaria No. 187, which established a Working Group (WG) to lead and articulate a participatory process to carry out proposals, strengthening consensus, to modernize the electricity sector, based on the following pillars: i) Governance; ii) Transparency; and iii) Legal-regulatory stability. The WG was composed by 5 prestigious sectoral institutions: MME, *Empresa de Pesquisa Energética* (EPE), *Agência Nacional de Energia Elétrica* (ANEEL), *Câmara de Comercialização de Energia Elétrica* (CCEE) and *Operador Nacional do Sistema Elétrico* (ONS). The WG deals with topics such as, market environment and mechanisms for enabling Brazilian electricity system expansion, pricing, cost and risk allocation, and sustainability of distribution services.

2.7 As result of the WG's efforts, in October 2019 it was presented an Action Plan which included 15 tasks and 88 subtasks to contribute to the modernization of the electricity sector. This TC was designed to give support to the implementation phase of these tasks and subtasks.

III. Description of Activities and Outputs

3.1 **Component I: Component I: Promote the decarbonization, digitization, decentralization, and democratization of the Brazilian electricity system.** Strengthen capacity of MME/EPE to adequately promote the development and consolidation of the ongoing power sector modernization process, specifically in the following topics: (i) Implementation of smart-grid and low carbon technologies; (ii) Promote a decentralized low carbon energy generation framework; (iii) Distribution; (iv) Short-Term Market (STM) Improvements. It will be programed and executed activities to promote gender equality, inclusion and diversity

3.2 **Component II: Component II: Strengthen the liberalization and competitiveness in the electricity sector in Brazil, increasing the mobilization of low carbon private investments.** Strengthen competitiveness of the Brazilian electricity sector, such as: (i) structure generation & transmission procurement procedures to promote low carbon electricity market; (ii) develop new transmission technologies roadmap; (iii) create the electricity trader role to promote competition and low carbon technologies at distribution level; (iv) strengthen Electric Energy Trading Chamber's capacities. It will be executed activities to promote gender equality, inclusion and diversity

3.3 **Component III: Component III: Boost to develop new technologies to support the decarbonization of the Brazilian energy matrix.** Support to the implementation of the guidelines and activities contemplated in the Brazilian National Hydrogen Program. Also, a certification will be developed, based on a technological platform, which ensures for every final consumer of hydrogen (whether national or international) which

carbon level is associated with the molecule. It will be executed activities to promote gender equality, inclusion and diversity

IV. Budget

Indicative Budget

Activity/Component	IDB/Fund Funding	Counterpart Funding	Total Funding
Component I: Promote the decarbonization, digitization, decentralization, and democratization of the Brazilian electricity system	US$300,000.00	US$0.00	US$300,000.00
Component II: Strengthen the liberalization and competitiveness in the electricity sector in Brazil, increasing the mobilization of low carbon private investments	US$310,000.00	US$0.00	US$310,000.00
Component III: Boost to develop new technologies to support the decarbonization of the Brazilian energy matrix	US$390,000.00	US$0.00	US$390,000.00
Total	**US$1,000,000.00**	**US$0.00**	**US$1,000,000.00**

V. Executing Agency and Execution Structure

5.1 By request of the Ministry of Mines and Energy Mines, this TC will be executed by the IDB. The Energy Division (INE/ENE) will be responsible for its execution, in coordination with the IDB Country Office in Brazil (CSC/CBR). The Bank will contract individual consultants, consulting firms, and non-consulting services in accordance with the Bank's current procurement policies and procedures: (i) the individual consultants will be hired in accordance with the guidelines set out in the AM-650; (ii) the procurement process for consulting firms will follow the Bank Policy for the Selection and Contracting of Consulting Firms for Bank-executed Operational Work (GN-2765-1) and the related Operational Guidelines (OP-1155-4), and (iii) the procurement of non-consultant services will follow the Bank Corporate Procurement Policy (GN-2303-20). In compliance with the Operational Guidelines for Technical Cooperation Products Revised version (GN-2629-1), this TC is classified as Client Support. The technical responsibility is in INE/ENE. The focal point designated and sector specialist responsible for executing and supervising this TC will be the Lead Energy Specialist based in Brasilia, Brazil, with the support of the Bank Country Office in Brazil (CSC/CBR) and the INE/ENE Team.

5.2 The MME has expressed its interest in the Bank being the executing agency, considering the Bank's experience in regulations and policies for digitization, decentralization, increase of private investments and boosting the development of new and clean technologies. This TC will be executed by the IDB, in accordance with Point D of Annex 10 of GN-2629-1 and Point D of Annex 10 of OP-1155-2. The IDB will execute this TC to facilitate administrative and financial management support, and the coordination between the different public-sector entities, mainly the MME and EPE, but also other actors involved in the execution and implementation of the final TC products.

VI. Project Risks and Issues

6.1 No major risks are anticipated for the development of the TC. However, there could be eventual delays in the development of the studies, due to potential difficulties in coordinating the different counterparts involved: MME, EPE and CCEE. This risk can be mitigated by involving the counterparts from the beginning of the execution of the TC. The execution from INE/ENE, with the support of specialized consultants, will help to mitigate these potential risks. The draft of Terms of Reference (ToR) of the studies to be financed have been prepared and agreed by the counterparts. The ToR for the key studies is ready and the consultants will be procured once the funds become available.

VII. Environmental and Social Classification

7.1 This TC will not finance feasibility or pre-feasibility studies of investment projects with associated environmental and social studies; therefore, it falls outside the scope of the Bank's Environmental and Social Policy Framework (ESPF).